U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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MOLYBDENUM IN FEBRUARY 1997

Domestic production of molybdenum in concentrate decreased 7% in February 1997 compared with that of the previous month and was 9% more than in February 1996, according to the U.S. Geological Survey. Producer molybdenum stocks in concentrate, oxide, and other product forms were 8,250 metric tons at the beginning of 1997 and 8,390 metric tons at the end of February 1997.

Included in this Mineral Industry Surveys (MIS) are U.S. production, shipments, and stocks of molybdenum concentrates and materials in February 1997, plus U.S. consumption by end use of molybdenum in January and February 1997. Also included are trade data for January 1997. During February 1997, Platt's Metals Week U.S. monthly average price for

molybdenum concentrate was \$4.960 per kilogram (\$2.250 per pound).

The average price for dealer molybdenum oxide was \$10.130 per kilogram (\$4.595 per pound) and that for dealer ferromolybdenum was \$11.949 per kilogram (\$5.428 per pound).

For the week ending May 2, 1997, Metals Week U.S. average price for molybdenum concentrate was \$4.960 per kilogram (\$2.250 per pound). The average price for dealer molybdenum oxide was \$9.865 per kilogram (\$4.475 per pound) and that for ferromolybdenum was \$11.904 per kilogram (\$5.400 per pound).

TABLE 1 U.S. SALIENT MOLYBDENUM CONCENRATE STATISTICS 1/

(Metric tons, contained molybdenum)

		1997		
Item	1996 p/	January	February	Year to date
Production	56,000	5,430	5,100	10,500
Shipments: 2/				
Domestic	16,100	1,330	1,130	2,460
Export	19,700	1,860	1,640	3,500

p/ Preliminary.

 ${\it TABLE~2}\\ {\it U.S.~REPORTED~CONSUMPTION,~BY~END~USES,~AND~CONSUMER~STOCKS~OF~MOLYBDENUM~MATERIALS~IN~1997}$

(Kilograms, contained molybdenum)

	Molybdic	Ferro molyb-	Ammonium and sodium	Molyb- denum		
End use	oxides	denum 2/	molybdate	scrap	Other	Total
January:	_					
Steel:	_					
Carbon	_ 46,700	25,700			W	72,300
Stainless and heat-resisting	_ 234,000	11,200			W	245,000
Full alloy	_ 228,000	137,000			W	365,000
Electrical	_ W	W	W			W
High-strength low-alloy	_ 29,900	9,160				39,100
Tool	_ 53,600	4,000			W	57,600
Cast irons (gray, malleable, and ductile iron)	3,190	W			W	3,200
Superalloys	76,500	W		29,700	41,400	148,000
Alloys: (other than steels, cast irons, and superalloys)	_					
Welding materials (structural and hard-facing)						
Other alloys 3/		W		534	W	534
Mill products made from metal powder 4/					2,020	2,020
Cemented carbides and related products 5/		224				224
Chemical and cereamic uses:	_					
Pigments			864			864
Catalysts	77,300		W		W	77,300
Other 6/	W				W	W
Miscellaneous uses:						
Lubricants					11,200	11,200
Other			W			W
Unspecified uses:	2,870	59,500	75,800		200,000	339,000
Total	752,000	247,000	76,700	30,300	255,000	1,360,000
Stocks, January 31,1997	466,000	144,000	8,870	5,820	814,000	1,440,000

See footnotes at end of table.

^{1/} Data are rounded to three significant digits; may not add to totals shown.

^{2/} Includes molybdic oxides, metal powder, ammonium molybdate, sodium molybdate, and other.

TABLE 2--Continued U.S. REPORTED CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS IN 1997

(Kilograms, contained molybdenum)

	M 1 1 1'	Ferro	Ammonium	Molyb-		
F. J	Molybdic	molyb-	and sodium	denum	Odhaa	T-4-1
End use	oxides	denum 2/	molybdate	scrap	Other	Total
February:	_					
Steel:		20.700			***	50 500
Carbon	_ 38,800	20,700			W	59,500
Stainless and heat-resisting	_ 180,000	9,780		-	W	190,000
Full alloy	_ 198,000	149,000			W	347,000
Electrical	_ W	W	W			W
High-strength low-alloy	_ 34,000	10,000				44,000
Tool	76,600	4,120			W	80,700
Cast irons (gray, malleable, and ductile iron)	3,200	53,700			W	56,900
Superalloys	W	W		W	36,800	36,800
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)		W				W
Other alloys 3/		68		W	2,020	2,090
Mill products made from metal powder 4/						
Cemented carbides and related products 5/						
Chemical and cereamic uses:	=					
Pigments			742			742
Catalysts	77,300		W		W	77,300
Other 6/	W				W	W
Miscellaneous uses:	_					
Lubricants					11,400	11,400
Other						
Unspecified uses:	104,000	10,100	76,100	35,300	175,000	400,000
Total	712,000	258,000	76,800	35,300	225,000	1,310,000
Stocks, February 28, 1997	540,000	154,000	8,720	67,000	814,000	1,580,000

W Withheld to avoid disclosing company proprietary data; included with "Unspecified uses."

 ${\bf TABLE~3}$ U.S. REPORTED PRODUCTION AND SHIPMENTS OF MOLYBDENUM PRODUCTS 1/

(Metric tons, contained molybdenum)

		1997			
Product	1996 p/	January	February	Year to date	
Gross production	46,300	4,790	4,830	9,620	
Internal consumption 2/	23,900	2,250	2,140	4,390	
Gross shipments	24,100	2,650	2,580	5,230	
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p/ Preliminary.

^{1/} Data are rounded to three significant digits; may not add to totals shown.

^{2/} Includes calcium molybdate.

^{3/} Includes magnetic and nonferrous alloys.

^{4/} Includes ingot, wire, rod, and sheet.

^{5/} Includes construction, mining, oil and gas, and metal working machinery.

^{6/} Includes ground coat, glass, silicone, electroplating, $\,$ and drier in paint or related uses.

^{1/} Data are rounded to three significant digits; may not add to totals shown.

^{2/} Includes molybdic oxides, metal powder, ammonium molybdate, sodium molybdate, and other.

TABLE 4 U. S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES (Including roasted concentrate), BY COUNTRY 1/

(Kilograms, contained molybdenum)

	1996		1997		
Country	January-December	December	January	Year to date	
Australia	60,900		9,090	9,090	
Belgium	12,400,000	599,000	57,200	57,200	
Brazil	20,400				
Canada	268,000	10,400	32,100	32,100	
Chile	6,990,000	878,000			
China	1,290,000	218,000			
France	5,620				
Germany	505,000				
India	58,600				
Italy	384,000	11,400	19,900	19,900	
Japan	5,140,000	390,000	520,000	520,000	
Korea, Republic of	10,200				
Mexico	5,500,000	193,000	10,900	10,900	
Netherlands	5,890,000		404,000	404,000	
Spain	19,900		18,400	18,400	
Sweden	473,000	20,000	71,100	71,100	
United Kingdom	6,010,000	134,000	1,140,000	1,140,000	
Other			9,030	9,030	
Total	45,000,000	2,450,000	2,290,000	2,290,000	

^{1/} Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.

 ${\bf TABLE~5} \\ {\bf U.S.~EXPORTS~OF~FERROMOLYBDENUM,~BY~COUNTRY~1/}$

(Kilograms, contained molybdenum)

	1996		1997		
Country	January-December	December	January	Year to date	
Canada	252,000 40,8		34,000	34,000	
China			130	130	
Japan	117,000	1,330	2,650	2,650	
Korea, Republic of	1,910				
Malaysia	37,200				
Mexico	117,000	12,300	1,980	1,980	
Singapore	53,900				
Spain	1,160				
Venezuela	1,090	282			
Total	581,000	54,700	38,800	38,800	

^{1/} Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.

 $\label{table 6} TABLE~6$ U.S. IMPORTS FOR CONSUMPTION OF MOLYBDENUM PRODUCTS 1/

(Kilograms unless otherwise specified)

		1996			1997			
	J	January-December			January			
	Gross	Contained	Value (c.i.f.)	Gross	Contained	Value (c.i.f.)		
Material	weight	molybdenum	(thousands) r/	weight	molybdenum	(thousands) r/		
Ore and concentrates roasted	8,090,000	5,460,000	\$41,300,000	717,000	443,000	\$4,130,000		
Ore and concentrates other	35,600	21,100	173,000					
Molybdenum chemicals:								
Oxides and hydroxides	1,160,000		8,850,000	262,000		1,790,000		
Molybdates of ammonium	665,000	368,000	5,360,000	68,600	30,200	567,000		
Molybdates (all others)	82,500	36,400	506,000	19,000	7,510	118,000		
Molybdenum orange	1,840,000		5,710,000	141,000		457,000		
Mixtures of inorganic								
compounds								
Ferromolybdenum	7,870,000	4,960,000	55,100,000	547,000	346,000	3,740,000		
Molybdenum powders	125,000	110,000	3,470,000	4,760	3,720	143,000		
Molybdenum unwrought	91,100	84,400	2,380,000	11,800	10,000	313,000		
Molybdenum waste and scrap	693,000	640,000	9,720,000	2,140	2,100	31,300		
Molybdenum wrought								
Molybdenum wire	1,990		320,000	181		31,100		
Molybdenum other	3,870		1,060,000	160		33,800		
Total	20,700,000	11,700,000	134,000,000	1,770,000	842,000	11,400,000		

r/ Revised.

Source: Bureau of the Census.

 $^{1/\,\}mbox{Data}$ are rounded to three significant digits; may not add to totals shown.